CLAIMS


1. A battery comprising a wound electrode group (1, 30, 33) accommodated in a battery case (17) together with electrolyte, and

5  a sealing plate (18) for sealing an open end of the battery case (17), wherein

the wound electrode group (1, 30, 33) is composed of an electrode stack (7) that is formed by laminating a strip of positive electrode plate (2), a strip of negative electrode plate

10  (3), and a pair of separators (4A, 4B) interposed therebetween so as to cover both surfaces of one of the positive and negative electrode plates, and

when the electrode stack (7) is wound around, a difference L in length between an inner turn and an adjacent outer turn

15  satisfies $L = 2t\pi + (W \times k)$, where t is a thickness of the electrode stack (7), W is a maximum diameter of a cross section of the wound electrode group (1, 30, 33), and k is a coefficient that is preset in accordance with expansion coefficients of active materials of the positive and negative electrode plates (2, 3)

20  within a range of from 0.005 to 0.05.

2. A method for manufacturing a wound electrode group wherein an electrode stack (7) is wound around a winding core (12, 13, 31, 32, 34, 37) to form a wound electrode group (1, 30, 33), the electrode stack being formed by laminating a strip of positive

25  electrode plate (2), a strip of negative electrode plate (3), and a pair of separators (4A, 4B) interposed therebetween so as to

cover both surfaces of one of the positive and negative electrode plates, comprising steps of:

setting a spacer (14) having predetermined dimensions at one or a plurality of locations between two adjacent turns (Ca, Cb) of the electrode stack (7) halfway in the process of winding the electrode stack (7) and winding them, and

removing the winding cores (12, 13, 31, 32, 34, 37) and the spacer (14) after fixing a winding end of the electrode stack (7) with a fixing member (10) after the completion of the winding process.

3. The method for manufacturing a wound electrode group according to claim 2, wherein the electrode stack (7) is wound into the electrode group (1, 30, 33) in which a difference L in length between each one turn of two adjacent inner turn (Ca) and outer turn (Cb) satisfies $L = 2t\pi + (W \times k)$, where t is a thickness of the electrode stack (7), W is a maximum diameter of a cross section of the wound electrode group (1, 30, 33) to be formed by winding the electrode stack (7), and k is a coefficient that is preset in accordance with expansion coefficients of active materials of the positive and negative electrode plates (2, 3) during battery use; and the spacer (14) has a thickness that achieves a total sum of the differences L.

4. The method for manufacturing a wound electrode group according to claim 3, wherein the coefficient k is selected from a range of from 0.005 to 0.05 in accordance with the number of the spacers (14) being set.

5. The method for manufacturing a wound electrode group according to claim 2 or 4, wherein the spacer (14) is a bar-like member having a lens-like cross section with no sharp edges.